

P. P. SAVANI UNIVERSITY

Third Semester of M.Sc. Examination

December-2021

SSCH8070-Rearrangement of Chemicals and Synthesis

15.12.2021, Wednesday Time: 12:30 p.m. to 03:00 p.m. Maximum Marks: 60

Instructions:

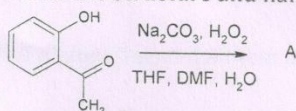
1. The question paper comprises of two sections.
2. Make suitable assumptions and draw neat figures wherever required.
3. Use of scientific calculator is allowed.

Section-I

Q.1 Very Short Questions (Attempt any five)

[10]

- 1.1 Write the structure and name of the Product A:

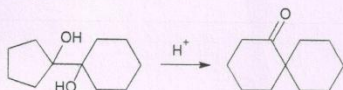


- 1.2 Give an example of Baeyer Villiger Oxidation.
- 1.3 What is DIBAL-H? Give its structure.
- 1.4 Give an example of kinetic control in Fries reaction.
- 1.5 Give preparation of Benzidine.
- 1.6 Define : Birch Reduction.

Q.2 Write Short Notes (Attempt any two)

[06]

- 2.1 Explain mechanism:



- 2.2 Give preparation of cumene to phenole via hydroperoxide rearrangement.
- 2.3 What is Red-Al? give three reaction of it.

Q.3 Detail questions (Attempt any two)

[14]

- 3.1 Give preparation of urea, urethane and amine from amide with mechanism.
- 3.2 What is precursor of nylon? Give detail mechanism of production of nylon precursor.
- 3.3 How will you prepare LiAlH_4 ? Give reduction of aldehyde and ketone by LiAlH_4 with mechanism.

Section-II

Q.1 Very Short Questions (Attempt any five)

[10]

- 1.1 Give full form and structure of : PDC, m-CPBA
- 1.2 What is chiral additive DHQ and DHQD?
- 1.3 Give conversion of sulfide to sulfoxide.
- 1.4 Give list of all Manganese oxidizing agent.
- 1.5 Give use of LiCl in Stille reaction.
- 1.6 Give Ritter reaction.

Q.2 Write Short Notes (Attempt any two)

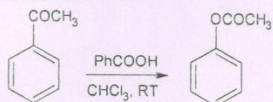
[06]

- 2.1 What is PCC? Give two reaction of it.
- 2.2 Explain stereoselective - anti and syn - Peterson olefination with mechanism.
- 2.3 Explain Cleavage of Glycol by NaIO_4 .

Q.3 Detail questions (Attempt any two)

[14]

- 3.1 Give following conversion with mechanism:
Benzyl alcohol \rightarrow Benzaldehyde \rightarrow Methyl benzoate
- 3.2 Give mechanism of following reaction, and give any two applications of this mechanism.



- 3.3 How will you prepare amine salt and enone via mannich base? Explain with mechanism.